

REMARKS

Reconsideration of this application is respectfully requested in view of the foregoing amendment and the following remarks.

By the foregoing amendment, claim 1 has been amended. Thus, claims 1, 2, 4, 5, and 7 are currently pending in the application and subject to examination.

In the Office Action mailed March 24, 2004, the Examiner rejected claims 1, 2, 4, 5, and 7 under 35 U.S.C. § 103(a) as being unpatentable over JP 11-307791 (JP '791), in view of U.S. Patent 6,300,556 to Yamagishi et al. (Yamagishi) and in further view of U.S. Patent No. 5,942,050 to Green et al. (Green). The Examiner further rejected claims 1, 2, 3, 5, and 7 under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,353,042 to Hanoka et al. (Hanoka) in view of Yamagishi, JP '791, and Green. The Applicant notes that claim 1 has been amended to the extent that any of these rejections might still be applied to the claims currently pending, they are respectfully traversed as follows.

As shown, for example, in Figs. 1-2, JP '791 discloses a solar cell module comprising solar cells 1 sealed within sealing resin (EVA layer) 2, a front surface side light transmitting member made of glass (glass plate) 3 and a rear surface member of a resin film (light-transmitting sheet) 4. The solar cell 1 comprises an i type amorphous silicon layer 12, a p type amorphous silicon layer 13, a light transmitting conductive film 14 and a collector 15 laminated in this order on the front surface of an n type crystalline silicon substrate 11. On the rear surface of this crystalline substrate 11, an i type amorphous silicon layer 16, an n type amorphous silicon layer 17, a light transmitting conductive film 18 and a collector 19 are laminated in this order. Therefore, in the solar

cell 1 of JP '791, the p type amorphous silicon layer 13, the n-type crystalline silicon substrate 11 and the n-type amorphous silicon layer 17 are laminated in this order when seen from the side of the front surface side light transmitting member made of glass 3.

Yamagishi '556 discloses a solar cell module comprising a tin oxide film 2, an a-Si film 4 and a metallic electrode layer 6 laminated in this order on a glass substrate 1, upon which a protective film 8 is further adhered through an EVA sheet 9.

Green '050 discloses a solar cell comprising crystalline semiconductor layers alternately laminated (n-type/intrinsic/p-type...) on a substrate 12 through a dielectric layer 11.

Regarding the rejection of claim 1 under 35 U.S.C. § 103(a) as being unpatentable JP '791 in view of Yamagishi and in further view of Green, the Applicant notes that none of the above-described cited references, singularly or in combination, describe or suggest a crystalline silicon substrate disposed between an amorphous semiconductor layer and a glass member including sodium, and a p-n junction formed between the crystalline silicon substrate and the amorphous semiconductor layer, as claimed in claim 1, as amended. Claim 1, as amended, recites "the crystalline silicon substrate is positioned between the thin film amorphous semiconductor layer which forms the p-n junction between the crystalline silicon substrate and the light incidence side light transmitting member."

While the Applicant does not admit that the prior art can be combined, the Applicant notes that even if combined as suggested by the Examiner, JP '791, Yamagishi, and Green do not result in the presently claimed invention. If JP '791 were to be altered by substituting the glass substrate 1 of Yamagishi for the light transmitting

member 3, and also by removing the intrinsic layer 12, the result would be a solar cell with a crystalline silicon substrate 11 positioned between the thin film amorphous semiconductor layer 13 and the rear surface member 4. In contrast, amended claim 1 of the present invention recites “the crystalline silicon substrate is positioned between the thin film amorphous semiconductor layer which forms the p-n junction between the crystalline silicon substrate and the light incidence side light transmitting member.” The Applicant submits that the light incidence side light transmitting member is distinct from the “rear surface member which is a resin film.”

Hanoka discloses a solar cell module comprising a plurality of solar cells 22 sealed within an encapsulant material 10 between a front surface side light transmitting member made of glass (front support layer) 26 and a rear surface light transmitting member made of glass or a film (backskin layer) 28.

Regarding the rejection of claim 1 under 35 U.S.C. 103(a) as being unpatentable over Hanoka in view of Yamagishi, JP '791, and Green, the Applicant notes that neither Hanoka nor any of the other cited references, singularly or in combination, describes or suggests a solar cell module in which the surface side light transmitting member is made of glass including sodium, and the rear surface member is a resin film, the crystalline silicon substrate being disposed between the amorphous semiconductor layer and the glass member including sodium, and a p-n junction being formed between the crystalline silicon substrate and the amorphous semiconductor layer, as claimed in amended claim 1. Claim 1, as amended, recites the limitation “the crystalline silicon substrate is positioned between the thin film amorphous semiconductor layer which

forms the p-n junction between the crystalline silicon substrate and the light incidence side light transmitting member.”

While the Applicant does not admit that the prior art can be combined, the Applicant notes that even if Hanoka were to be altered by substituting the glass substrate 1 of Yamagishi for the front support layer 26 as suggested by the Examiner, by substituting the solar cell 1 of JP '791 for the solar cells 22, and also by removing the intrinsic layer 12, the result would be a solar cell with a crystalline silicon substrate 11 positioned between the thin film amorphous semiconductor layer 13 and the backskin layer 28 (rear surface member). In contrast, amended claim 1 of the present invention recites “the crystalline silicon substrate is positioned between the thin film amorphous semiconductor layer which forms the p-n junction between the crystalline silicon substrate and the light incidence side light transmitting member.” The light incidence side light transmitting member is distinct from the “rear surface member which is a resin film.” The Applicant traverses the Examiner’s assertion that “both surface members 3 and 4 are light-transmitting surface members and light is incident on both sides of the crystalline substrate 11,” as such would not allow the light transmitting member and the rear surface member to be interchanged.

Claims 2, 4, 5, and 7 depend from allowable claim 1 and describe further features of the invention. As amended claim 1 is allowable over the art of record, so claims 2, 4, 5, and 7 are allowable. Accordingly, withdrawal of the rejection of claims 2, 4, 5, and 7 is respectfully requested.

With regard to each of the rejections under §103 in the Office Action, it is also respectfully submitted that the Examiner has not yet set forth a *prima facie* case of

obviousness. The PTO has the burden under §103 to establish a *prima facie* case of obviousness. In re Fine, 5 U.S.P.Q.2nd 1596, 1598 (Fed. Cir. 1988). Both the case law of the Federal Circuit and the PTO itself have made clear that where a modification must be made to the prior art to reject or invalidate a claim under §103, there must be a showing of proper motivation to do so. The mere fact that a prior art reference could arguably be modified to meet the claim is insufficient to establish obviousness. The PTO can satisfy this burden only by showing some objective teaching in the prior art or that knowledge generally available to one of ordinary skill in the art would lead that individual to combine the relevant teachings of the references. Id. In order to establish obviousness, there must be a suggestion or motivation in the reference to do so. See also In re Gordon, 221 U.S.P.Q. 1125, 1127 (Fed. Cir. 1984) (prior art could not be turned upside down without motivation to do so); In re Rouffet, 149 F.3d 1350 (Fed. Cir. 1998); In re Dembiczak, 175 F.3d 994 (Fed. Cir. 1999); In re Lee, 277 F.3d 1338 (Fed. Cir. 2002).

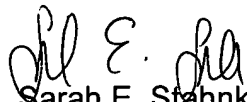
In the Office Action, the Examiner merely states the advantages of the present invention. See, e.g., Office Action at page 7. This is an insufficient showing of motivation.

For all of the above reasons, it is respectfully submitted that the claims now pending patentability distinguish the present invention from the cited references. Accordingly, reconsideration and withdrawal of the outstanding rejections and an issuance of a Notice of Allowance are earnestly solicited.

Should the Examiner determine that any further action is necessary to place this application into better form, the Examiner is encouraged to telephone the undersigned representative at the number listed below.

Respectfully submitted,

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Enclosure: Petition for Extension of Time